

CLAIMS:

1. An optical fiber transmission line comprising a plurality of local dispersion compensating spans, wide dispersion compensating spans disposed at predetermined intervals, and optical repeating  
5 amplifiers to connect each span;

wherein the local dispersion compensating span comprises a first optical fiber with positive dispersion having an effective core area of  $130 \mu\text{m}^2$  or more and a second optical fiber with a negative dispersion value of  $-50 \text{ ps/nm/km}$  or less to transmit an optical  
10 signal output from the first optical fiber; and

wherein the wide dispersion compensating span comprises a third optical fiber having the same configuration and composition with the first optical fiber.

2. The optical fiber transmission line of claim 1 wherein the  
15 distance of the wide dispersion compensating span is substantially equal to that of the local dispersion compensating span.

3. The optical fiber transmission line of claim 1 wherein the average chromatic dispersion of the local dispersion compensating spans after the dispersion compensation by the second optical fiber  
20 is between  $-4 \text{ ps/nm/km}$  and  $-1 \text{ ps/nm/km}$ .